

1. 1990-1991 2. 1991-1992 3. 1992-1993 4. 1993-1994 5. 1994-1995 6. 1995-1996 7. 1996-1997 8. 1997-1998 9. 1998-1999 10. 1999-2000 11. 2000-2001 12. 2001-2002 13. 2002-2003 14. 2003-2004 15. 2004-2005 16. 2005-2006 17. 2006-2007 18. 2007-2008 19. 2008-2009 20. 2009-2010 21. 2010-2011 22. 2011-2012 23. 2012-2013 24. 2013-2014 25. 2014-2015 26. 2015-2016 27. 2016-2017 28. 2017-2018 29. 2018-2019 30. 2019-2020 31. 2020-2021 32. 2021-2022 33. 2022-2023 34. 2023-2024 35. 2024-2025 36. 2025-2026 37. 2026-2027 38. 2027-2028 39. 2028-2029 40. 2029-2030 41. 2030-2031 42. 2031-2032 43. 2032-2033 44. 2033-2034 45. 2034-2035 46. 2035-2036 47. 2036-2037 48. 2037-2038 49. 2038-2039 50. 2039-2040 51. 2040-2041 52. 2041-2042 53. 2042-2043 54. 2043-2044 55. 2044-2045 56. 2045-2046 57. 2046-2047 58. 2047-2048 59. 2048-2049 60. 2049-2050 61. 2050-2051 62. 2051-2052 63. 2052-2053 64. 2053-2054 65. 2054-2055 66. 2055-2056 67. 2056-2057 68. 2057-2058 69. 2058-2059 70. 2059-2060 71. 2060-2061 72. 2061-2062 73. 2062-2063 74. 2063-2064 75. 2064-2065 76. 2065-2066 77. 2066-2067 78. 2067-2068 79. 2068-2069 80. 2069-2070 81. 2070-2071 82. 2071-2072 83. 2072-2073 84. 2073-2074 85. 2074-2075 86. 2075-2076 87. 2076-2077 88. 2077-2078 89. 2078-2079 90. 2079-2080 91. 2080-2081 92. 2081-2082 93. 2082-2083 94. 2083-2084 95. 2084-2085 96. 2085-2086 97. 2086-2087 98. 2087-2088 99. 2088-2089 100. 2089-2090 101. 2090-2091 102. 2091-2092 103. 2092-2093 104. 2093-2094 105. 2094-2095 106. 2095-2096 107. 2096-2097 108. 2097-2098 109. 2098-2099 110. 2099-2100 111. 2100-2101 112. 2101-2102 113. 2102-2103 114. 2103-2104 115. 2104-2105 116. 2105-2106 117. 2106-2107 118. 2107-2108 119. 2108-2109 120. 2109-2110 121. 2110-2111 122. 2111-2112 123. 2112-2113 124. 2113-2114 125. 2114-2115 126. 2115-2116 127. 2116-2117 128. 2117-2118 129. 2118-2119 130. 2119-2120 131. 2120-2121 132. 2121-2122 133. 2122-2123 134. 2123-2124 135. 2124-2125 136. 2125-2126 137. 2126-2127 138. 2127-2128 139. 2128-2129 140. 2129-2130 141. 2130-2131 142. 2131-2132 143. 2132-2133 144. 2133-2134 145. 2134-2135 146. 2135-2136 147. 2136-2137 148. 2137-2138 149. 2138-2139 150. 2139-2140 151. 2140-2141 152. 2141-2142 153. 2142-2143 154. 2143-2144 155. 2144-2145 156. 2145-2146 157. 2146-2147 158. 2147-2148 159. 2148-2149 160. 2149-2150 161. 2150-2151 162. 2151-2152 163. 2152-2153 164. 2153-2154 165. 2154-2155 166. 2155-2156 167. 2156-2157 168. 2157-2158 169. 2158-2159 170. 2159-2160 171. 2160-2161 172. 2161-2162 173. 2162-2163 174. 2163-2164 175. 2164-2165 176. 2165-2166 177. 2166-2167 178. 2167-2168 179. 2168-2169 180. 2169-2170 181. 2170-2171 182. 2171-2172 183. 2172-2173 184. 2173-2174 185. 2174-2175 186. 2175-2176 187. 2176-2177 188. 2177-2178 189. 2178-2179 190. 2179-2180 191. 2180-2181 192. 2181-2182 193. 2182-2183 194. 2183-2184 195. 2184-2185 196. 2185-2186 197. 2186-2187 198. 2187-2188 199. 2188-2189 200. 2189-2190 201. 2190-2191 202. 2191-2192 203. 2192-2193 204. 2193-2194 205. 2194-2195 206. 2195-2196 207. 2196-2197 208. 2197-2198 209. 2198-2199 210. 2199-2200 211. 2200-2201 212. 2201-2202 213. 2202-2203 214. 2203-2204 215. 2204-2205 216. 2205-2206 217. 2206-2207 218. 2207-2208 219. 2208-2209 220. 2209-2210 221.	
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combining the deacidified juice with said second portion
of juice flow and with the separated suspended solids to

achieve a final blend, which is a low-acid single strength juice.

2. The process of claim 1 wherein the juice is an NFC citrus juice.

3. The process of claim 2 wherein the NFC citrus juice is NFC orange juice.

4. The process of claim 1 further comprising treating one or more of said initial juice flow, said first portion juice and said solids-reduced juice prior to deacidification so as to pasteurize, to reduce active enzymes in same, or both.

5. The process of claim 4 wherein said treating heat treats the juice flow to inactivate pectin esterase enzyme present in the juice.

6. The process of claim 1 wherein the separating reduces the suspended solids in the solids-reduced juice to not greater than about two volume percent, based on the total volume of the solids-reduced juice.

7. The process of claim 1 wherein the separating reduces the suspended solids in the solids-reduced juice to not greater than about one volume percent, based on the total volume of the solids-reduced juice.

8. The process of claim 1 wherein the separating out suspended solids is selected from centrifugation, membrane filtration, decanting, finishing and filtering.

9. The process of claim 1 wherein said adding an initial single strength juice flow lowers the pH of the deacidified juice to a value not greater than about 4.5.

10. The process of claim 1 wherein said adding an initial single strength juice flow is performed only when the pH of the deacidified juice is greater than or equal to about 4.5.

11. The process of claim 1 wherein said adding an initial single strength juice flow lowers the pH of the deacidified juice to a value not greater than about 4.4.

12. The process of claim 1 wherein said adding an initial single strength juice flow is lowers the pH of the deacidified juice to a value not greater than about 4.3.

13. The process of claim 1 wherein said first portion juice comprises a minor fraction of the initial single strength juice flow and second portion juice comprises a major fraction of the initial single strength juice flow.

14. A process for making a low-acid single strength juice including not from concentrate (NFC) citrus juice product comprising:

providing an initial citrus juice flow having suspended solids;

cooling the initial citrus juice flow to a temperature of not greater than about 45°F and maintaining the citrus juice at or below this temperature throughout the process, except during pasteurization or enzyme deactivation, if same is practiced during the process;

diverting from the initial citrus juice flow a first portion of the citrus juice from a second portion of the citrus juice;

separating out suspended solids from the first portion of the citrus juice to provide a solids-reduced citrus juice having not greater than about 3 volume percent suspended solids based upon the total volume of the solids-reduced citrus juice;

directing the solids-reduced citrus juice to a supply of ion-exchange resin and deacidifying the solids-reduced citrus juice by contact with the ion-exchange resin; and

combining the deacidified citrus juice with said second portion of the citrus juice flow and with the separated suspended solids to achieve a final blend, which is a low-acid not from concentrate citrus juice.

15. The process of claim 14 wherein the citrus juice is orange juice.

16. The process of claim 14 further comprising treating the initial citrus juice flow to reduce active enzymes, pasteurize same, or both.

17. The process of claim 14 further comprising treating one or more of the initial citrus juice flow, the first portion of citrus juice and the solids-reduced citrus juice prior to deacidification so as to pasteurize, reduce active enzymes in same, or both.

18. The process of claim 17 wherein said treating heat treats the initial citrus juice flow to inactivate pectin esterase enzyme present in the citrus juice.

19. The process of claim 14 wherein the separating procedure reduces the suspended solids in the solids-reduced citrus juice to not greater than about two volume percent, based on the total volume of the solids-reduced citrus juice.

20. The process of claim 14 wherein the separating procedure reduces the suspended solids in the solids-reduced citrus juice to not greater than about one volume percent, based on the total volume of the solids-reduced citrus juice.

21. The process of claim 14 wherein the separating out suspended solids is selected from centrifugation, membrane filtration, decanting, finishing and filtering.

22. A process for making a low-acid not from concentrate citrus juice product comprising:

providing an initial citrus juice flow having suspended solids;

diverting from the initial citrus juice flow a first portion of the citrus juice from a second portion of the citrus juice;

separating out suspended solids from the first portion of the citrus juice to provide a solids-reduced citrus juice having not greater than about 3 volume percent suspended

solids based upon the total volume of the solids-reduced citrus juice;

directing the solids-reduced citrus juice to a supply of ion-exchange resin and deacidifying the solids-reduced citrus juice by contact with the ion-exchange resin;

adding a portion of the initial citrus juice flow to the deacidified citrus juice immediately after deacidification to lower the pH of the deacidified citrus juice to a value that discourages microbial activity; and

combining the deacidified citrus juice with said second portion of the citrus juice flow and with the separated suspended solids to achieve a final blend, which is a low-acid not from concentrate citrus juice.

23. The process of claim 22 wherein the citrus juice is orange juice.

24. The process of claim 22 further comprising treating one or more of the initial citrus juice flow, the first portion of citrus juice and the solids-reduced citrus juice prior to deacidification so as to pasteurize, reduce active enzymes in same, or both.

25. The process of claim 22 further comprising heat treating the citrus juice flow prior to deacidification to inactivate pectin esterase enzyme present in the citrus juice.

26. The process of claim 22 wherein the separating procedure reduces the suspended solids in the solids-reduced citrus juice to less than about two volume percent, based on the total volume of the solids-reduced citrus juice.

27. The process of claim 22 wherein the separating procedure reduces the suspended solids in the solids-reduced citrus juice to less than about one volume percent, based on the total volume of the solids-reduced citrus juice.

28. The process of claim 22 wherein the separating out suspended solids is selected from centrifugation, membrane filtration, decanting, finishing and filtering.

29. The process of claim 22 wherein said adding an initial citrus juice flow lowers the pH of the deacidified citrus juice to a value not greater than about 4.5.

30. The process of claim 22 wherein said adding an initial citrus juice flow is performed only when the pH of the

deacidified citrus juice is greater than or equal to about 4.3.

31. The process of claim 29 wherein said adding an initial citrus juice flow lowers the pH of the deacidified citrus juice to a value not greater than about 4.4.

32. The process of claim 22 wherein said adding an initial citrus juice flow lowers the pH of the deacidified citrus juice to a value not greater than about 4.3.

33. A process for making a low-acid single strength juice including not from concentrate (NFC) juice, comprising:

providing an initial single strength juice flow having suspended solids and a temperature of about 45°F or below;

maintaining the juice flow at or below about 45°F during the process, except during pasteurization or enzyme deactivation, if same is practiced during the process;

separating out suspended solids from the juice flow to provide a solids-reduced juice having not greater than about 3 volume percent suspended solids based upon the total volume of the solids-reduced juice;

deacidifying the solids-reduced juice by contact with ion-exchange resin to provide a deacidified juice flow;

adding immediately to the deacidified juice flow a portion of the single strength juice flow which has an acidity greater than that of the deacidified juice flow thereby lowering the pH of the deacidified juice flow to a value that discourages microbial activity.

34. A process for making a low-acid not from concentrate (NFC) orange juice comprising:

providing an initial NFC juice flow having suspended solids and a temperature of about 45°F or below;

maintaining the NFC juice flow at or below about 45°F throughout the process, except during pasteurization or enzyme deactivation, if same is practiced during the process;

separating out suspended solids from the NFC orange juice flow to provide a solids-reduced juice having not greater than about 3 volume percent suspended solids based upon the total volume of the solids-reduced juice;

deacidifying the solids-reduced orange juice by contact with ion-exchange resin to provide a deacidified juice flow; and

adding immediately to the deacidified juice flow a portion of the initial NFC orange juice flow when same has an acidity greater than that of the deacidified juice flow thereby lowering the pH of the deacidified juice flow to a

value that discourages microbial activity, and thereby providing an NFC juice which is a low-acid orange juice.

35. A process for making a low-acid not from concentrate (NFC) orange juice comprising:

providing an initial NFC orange juice flow having suspended solids;

separating out suspended solids from the NFC orange juice flow to provide a solids-reduced juice having not greater than about 3 volume percent suspended solids based upon the total volume of the solids-reduced juice;

deacidifying the solids-reduced juice by contact with ion-exchange resin to provide a deacidified juice flow; and

adding promptly to the deacidified juice flow a portion of the NFC juice flow which has an acidity greater than that of the deacidified juice flow to thereby lower the pH of the deacidified juice flow to a value that discourages microbial activity and to thereby provide an NFC juice which is a low-acid orange juice.

36. A reduced-acid single strength juice made according to the process of claim 1, the reduced-acid juice being orange juice having a titratable acidity of not greater than about 0.6 weight percent, based upon the total weight of the orange juice.

37. A reduced-acid single strength juice made according to the process of claim 1, the reduced-acid single strength juice having an acidity lower than that of the juice which has not been so processed.

38. A reduced-acid not from concentrate (NFC) citrus juice made according to the process of claim 14, the reduced-acid citrus juice having an acidity lower than that of the citrus juice which has not been so processed.

39. A reduced-acid not from concentrate (NFC) citrus juice made according to the process of claim 22, the reduced-acid citrus juice having an acidity lower than that of the citrus juice which has not been so processed.

40. A reduced-acid not from concentrate (NFC) juice made according to the process of claim 22, the reduced-acid NFC juice being orange juice having a titratable acidity of not greater than about 0.6 weight percent, based upon the total weight of the orange juice.